

# **CAPCA Spring Meeting**

## **April 3 – 5, 2002**



***Jim Joy, Chief***  
***Bureau of Air Quality***

# SC air quality status...

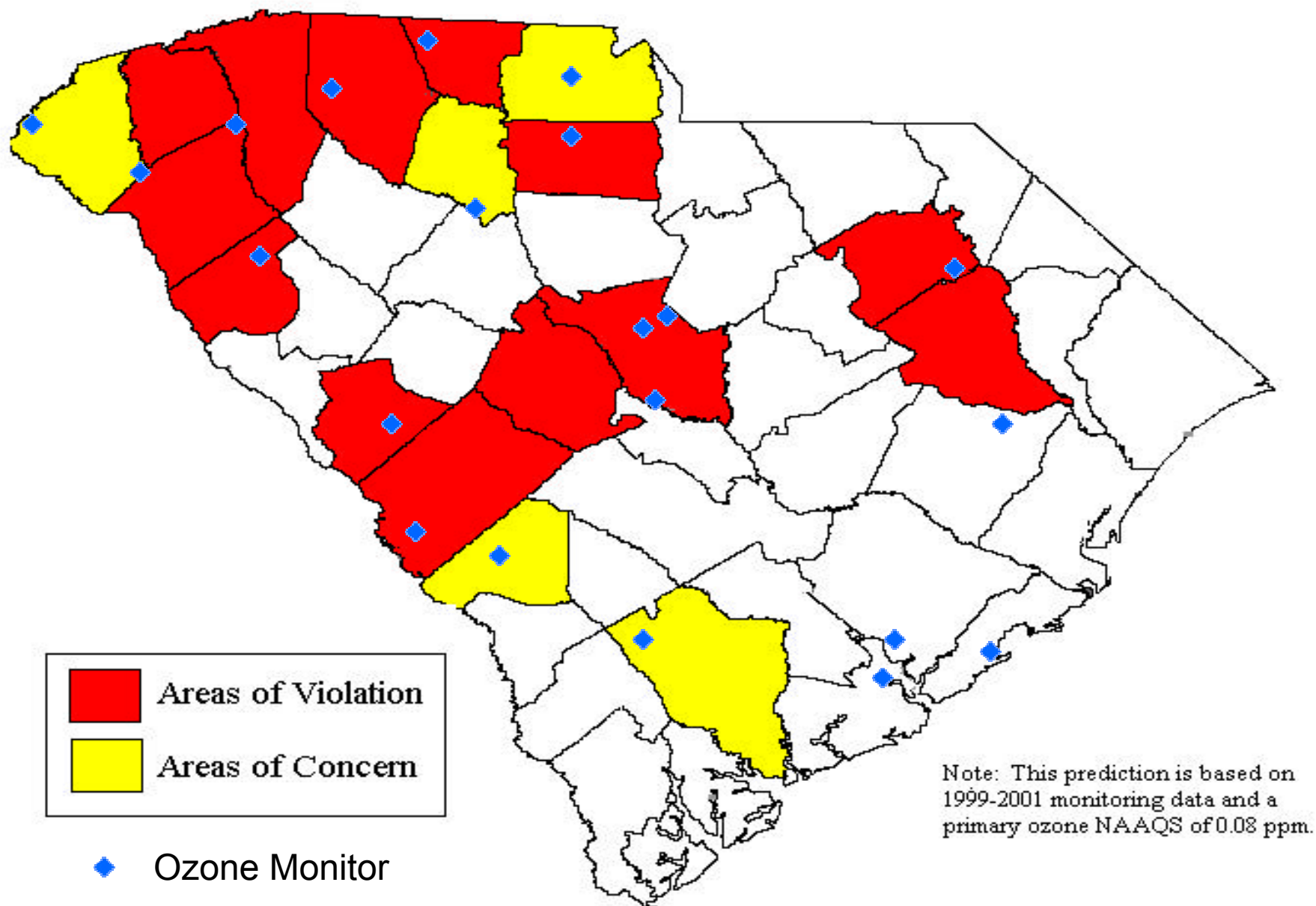


...attainment

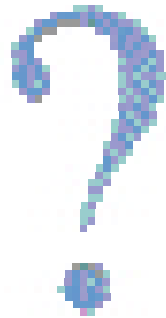
# 8-Hour Ozone Standard Timeline

- July, 2000, SC was required to provide to EPA recommended non-attainment areas
- EPA has indicated that states will be allowed to update recommendations with latest air quality data
- EPA has also indicated that designations will not occur until the 8-hour ozone implementation rule is finalized ~ 1 – 2 years
- Currently gathering data on possible strategies and control measures to utilize to keep air quality in compliance with national standards

## Potential Impacts of the 8-hour Ozone National Ambient Air Quality Standard



So, what do we need in 2002  
to attain the 8-hr ozone  
standard?



<b>County</b>	<b>2000</b>	<b>2001</b>	<b>2002 ?</b>
<b>Abbeville</b>	<b>0.085</b>	<b>0.082</b>	<b>0.086</b>
<b>Aiken</b>	<b>0.093</b>	<b>0.081</b>	<b>0.079</b>
<b>Anderson</b>	<b>0.084</b>	<b>0.088</b>	<b>0.081</b>
<b>Barnwell</b>	<b>0.090</b>	<b>0.073</b>	<b>0.090</b>
<b>Cherokee</b>	<b>0.088</b>	<b>0.080</b>	<b>0.085</b>
<b>Chester</b>	<b>0.078</b>	<b>0.083</b>	<b>0.092</b>
<b>Colleton</b>	<b>0.080</b>	<b>0.078</b>	<b>0.095</b>
<b>Darlington</b>	<b>0.087</b>	<b>0.081</b>	<b>0.085</b>
<b>Edgefield</b>	<b>0.079</b>	<b>0.077</b>	<b>0.097</b>
<b>Oconee</b>	<b>0.080</b>	<b>0.079</b>	<b>0.094</b>
<b>Pickens</b>	<b>0.081</b>	<b>0.088</b>	<b>0.084</b>
<b>Richland</b>	<b>0.097</b>	<b>0.091</b>	<b>0.065</b>
<b>Spartanburg</b>	<b>0.089</b>	<b>0.090</b>	<b>0.074</b>
<b>Union</b>	<b>0.079</b>	<b>0.079</b>	<b>0.095</b>
<b>York</b>	<b>0.076</b>	<b>0.080</b>	<b>0.097</b>

# Jim's Crystal Ball for the 2002 Ozone Season



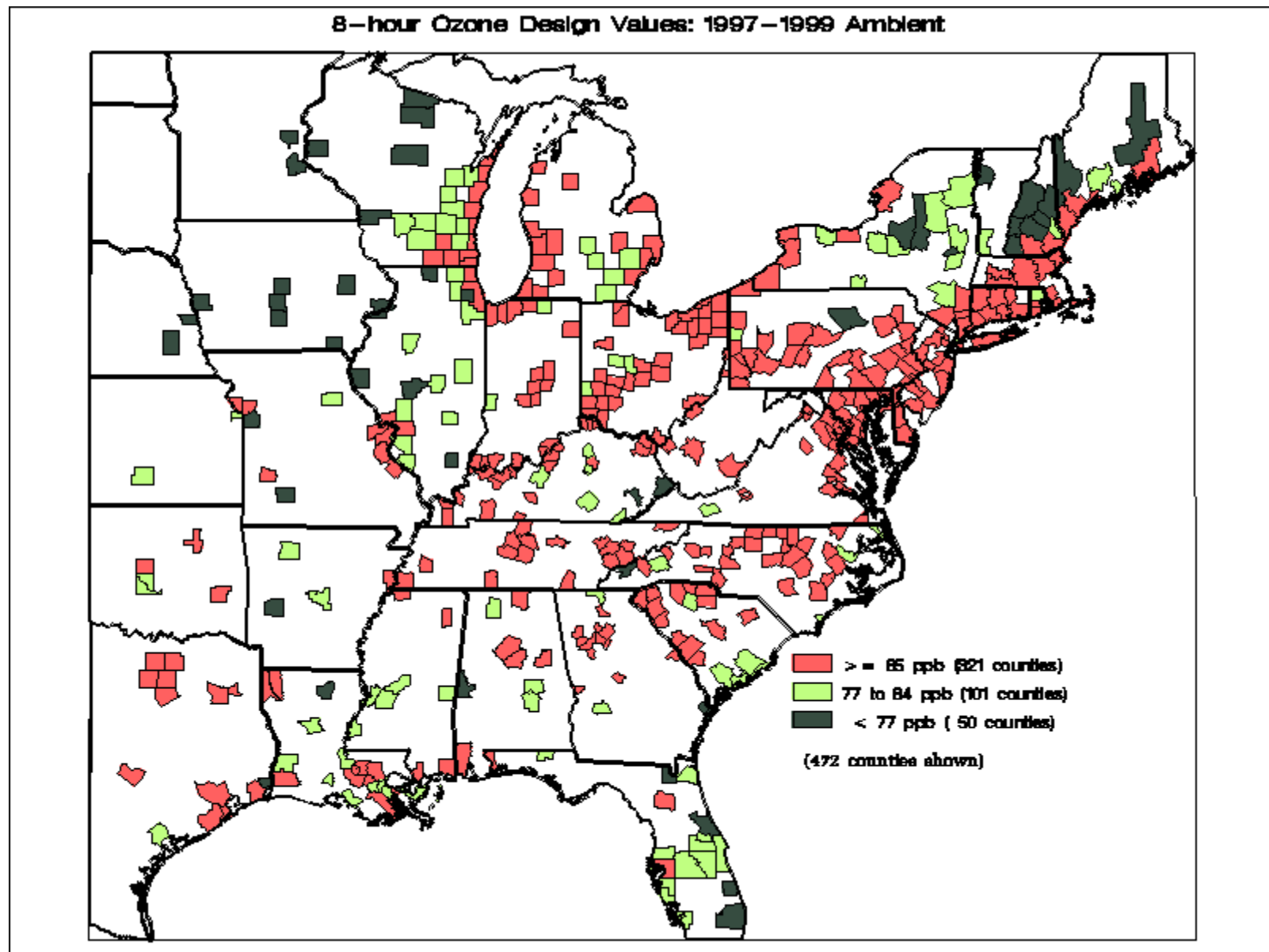
<b>County</b>	<b>2000</b>	<b>2001</b>	<b>2002?</b>	<b>3 Yr Ave.</b>
<b>Abbeville</b>	<b>0.085</b>	<b>0.082</b>	<b>0.080</b>	<b>0.082</b>
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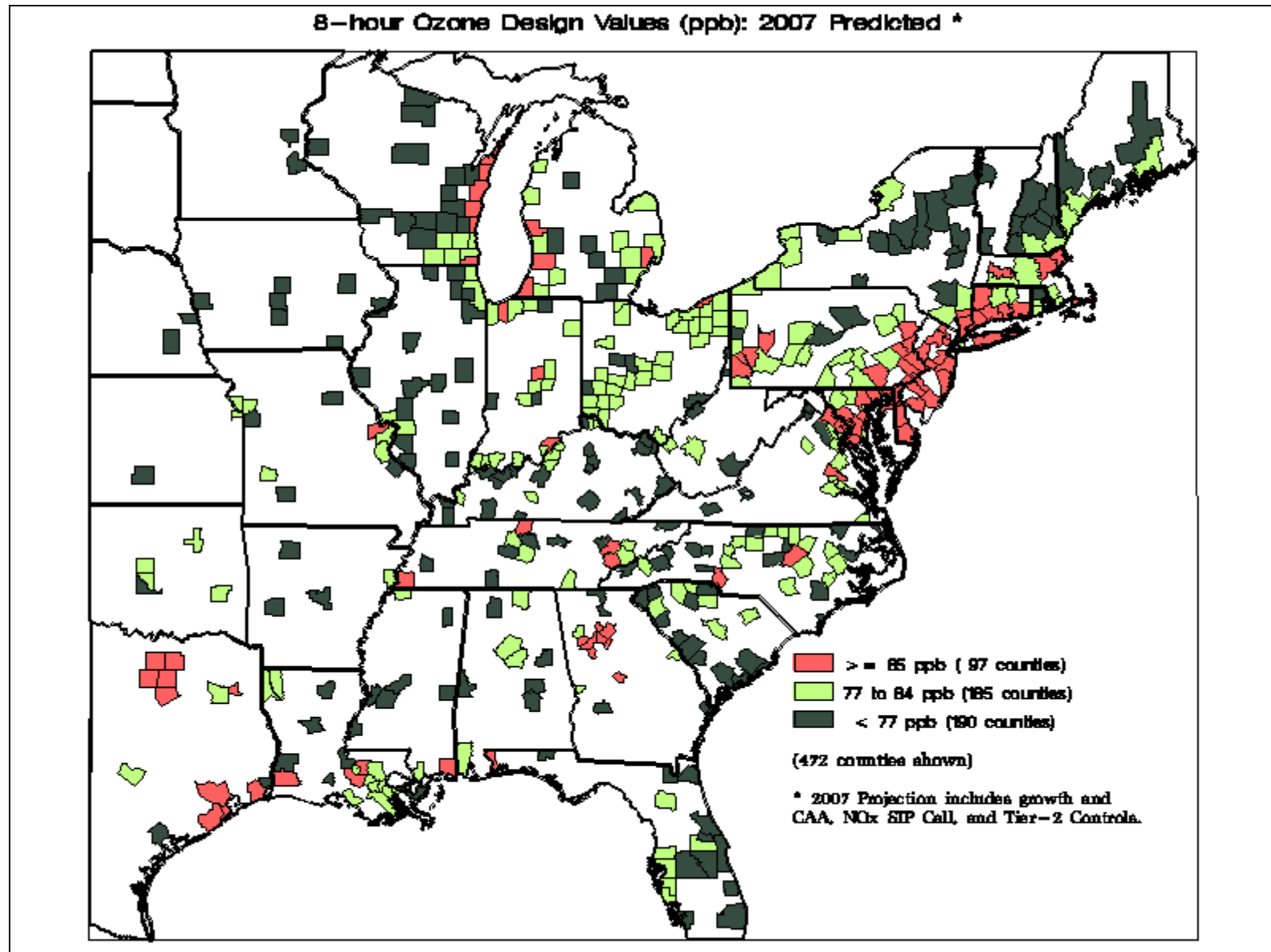
# EPA 8- Hour Ozone Modeling

What does it show?

## 8-Hour Ozone 1997 – 1999 (Ambient Data)

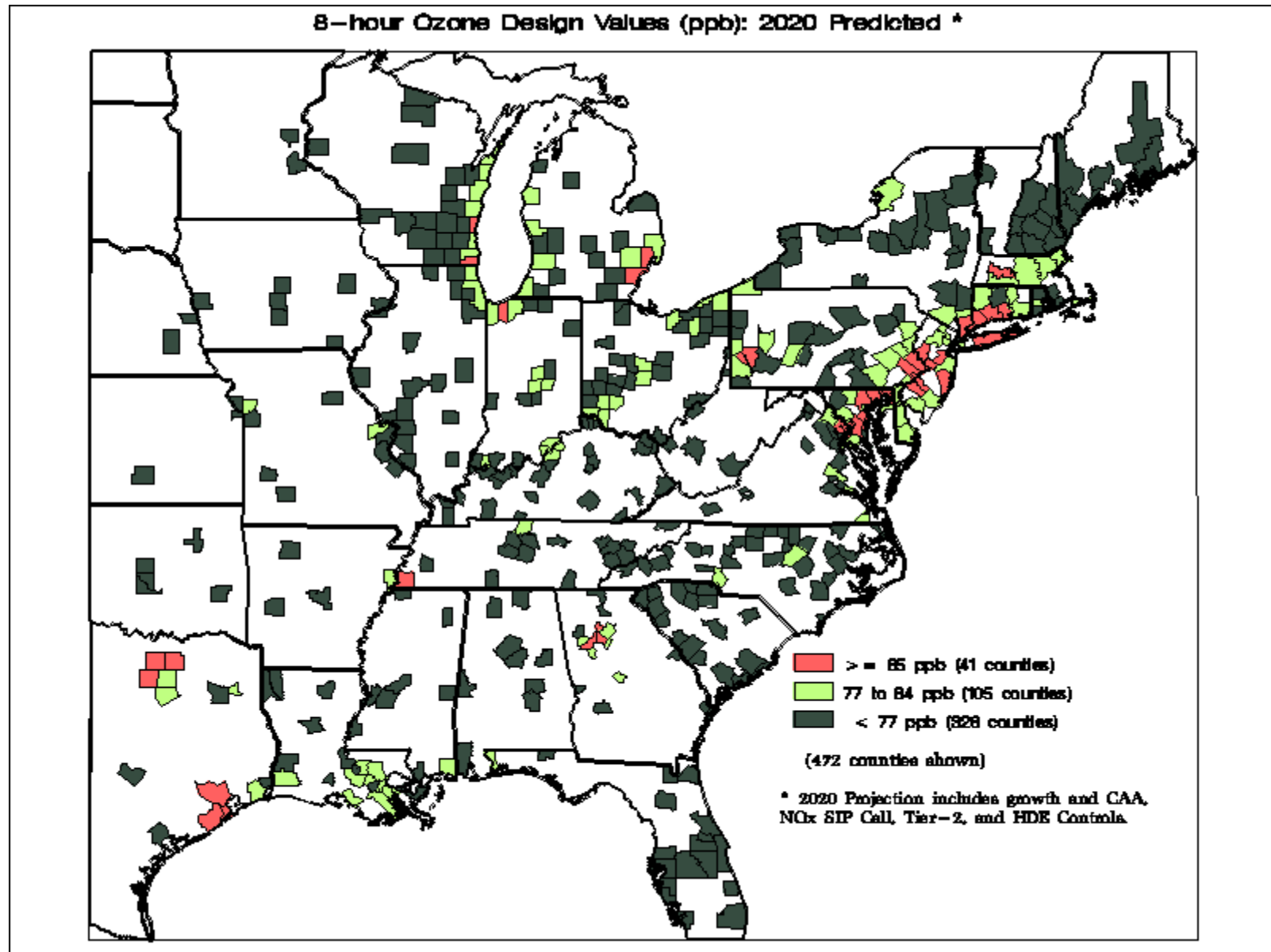


## 8-Hour Ozone – Modeling for 2007



**Projections include growth & CAA, NOx SIP Call and Tier 2 Controls**

## 8-Hour Ozone – Modeling for 2020

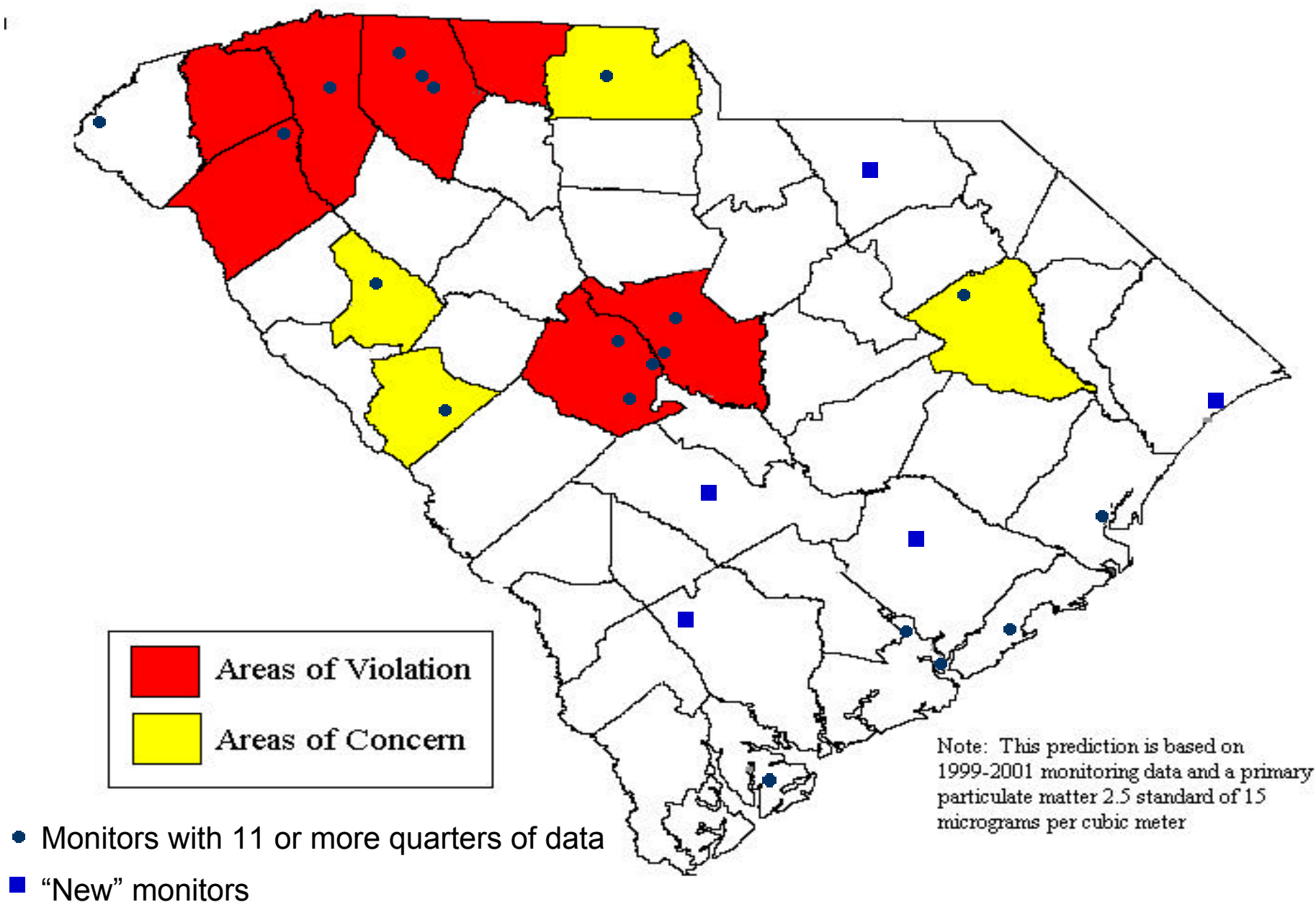


Projections include growth & CAA, NOx SIP Call, Tier 2 & HDD

# Ozone Modeling Project

- Looking at an event during May 16-23, 1998
- Target completion date Summer 2002
- Completion of this project will give us a base year and a future year (2010)
- To be used in developing strategies for complying with the 8-hr ozone standard
- Establishing technical and policy workgroups to help with strategy development

# Potential Impacts of the PM<sub>2.5</sub> National Ambient Air Quality Standard



# Merchant Power Plants

 Defined by the SC Public Service Authority as:

- Electrical generators that do not sell electricity directly to retail customers in SC
- Not under long term contract (10 years) to sell at least 75% of the power produced to a current retail supplier in the area

# Merchant Power Plants (cont'd.)

 Why this part of SC?

–Access to:

- High volume natural gas lines
- High voltage transmission lines
- Adequate water supplies



# Merchant Power Plants (cont'd.)

## Public Concerns

- Environmental Impacts
  - Air quality
  - Water quality and quantity
- Noise
- Light
- General development issues

Note: these concerns could be expressed over any proposed power plant, not just merchant power plants

# Merchant Power Plants (cont'd.)

## Simple Cycle

- Jet engine used to produce power
- Do not produce steam
- Do not use a significant amount of cooling water

## Combined Cycle

- Add a heat recovery unit to the end of simple cycle process to produce additional power
- Produce steam
- Use a significant amount of cooling water

## Coal Fired Plants

- Used for base load power
- Can use significant amounts of cooling water

# Merchant Power Plants (cont'd.)

## Water Concerns

- Two primary types of impacts
  - Water quality impacts directly associated with a discharge from the facility
  - Water quality issues associated with consumptive loss of water during the cooling process

# Merchant Power Plants (cont'd.)

## 10 Merchant Power Plants

- Proposed (7), under construction (2), in operation (1)
- 3 Simple Cycle and 6 Combined Cycle
  - Natural gas fueled
- 1 Coal fired

# Merchant Power Plants (cont'd.)

## Air Concerns

- Emissions of Nitrogen Oxides, Carbon Monoxide, Particulate Matter & Sulfur Dioxide
- Potential Non-attainment repercussions
  - Ozone
    - Nitrogen oxides and volatile organic compounds combine to form ozone
  - Particulate Matter 2.5
    - Combustion of fossil fuels contributes to PM<sub>2.5</sub>

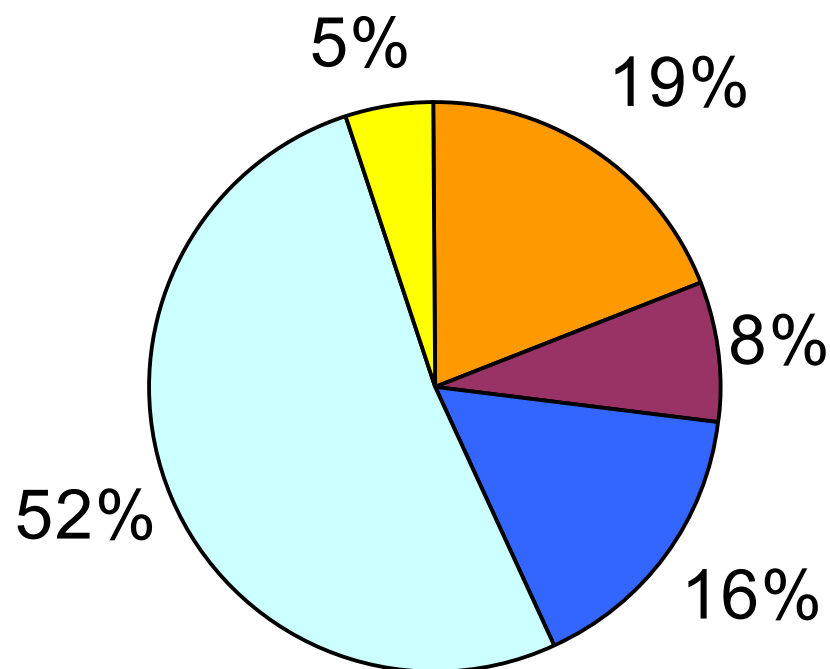
# Merchant Power Plants (cont'd.)

## Air Concerns (cont'd)

- Cumulative effect of additional NO<sub>x</sub> emissions in this area will make it more difficult to meet the 8-hour ozone standard
- Could place additional burden on existing facilities
  - They may be required to add additional air emission controls to meet non-attainment requirements

# Upstate SC NO<sub>x</sub> Emissions

Abbeville, Anderson, Cherokee, Chester, Greenville, Laurens, Oconee ,  
Pickens, Spartanburg, Union and York Counties



Point Sources  
(20,112 tons/yr)

Area Sources  
(8,307 tons/yr)

OffRoad Mobile  
Sources (17,121  
tons/yr)

OnRoad Mobile  
Sources (54,542  
tons/yr)

Merchant Power  
Plants (5,364 tons/yr)

# Upstate - Major Stationary Sources of NO<sub>x</sub> Emissions

Facility Name	tons/year
Transcontinental Pipeline	3822
Duke Energy – Lee	3557
Guardian Industries	2321
Santee Cooper – Rainey	1649 (estimated)
Greenville Generating Co.	1630 (estimated)
Duke Energy – Ripp	860 (estimated)

**Merchant Power Plants**



## Upstate - Major Stationary Sources of NO<sub>x</sub> Emissions(cont'd.)

Facility Name	tons/year
Southern Company	691 (estimated)
Broad River Energy	688 (estimated)
Genpower	597 (estimated)
Greenville Power	550 (estimated)
Fork Shoals Energy	477 (estimated)
Palmetto Energy	475 (estimated)

**Merchant Power Plants**

## Upstate - Major Stationary Sources of NO<sub>x</sub> Emissions(cont'd.)

Facility Name	tons/year
Owens Corning (Anderson)	397
Cone Mills – Carlisle	267
Kosa – Artevia Specialities	259
Cherokee Falls Dev. Co.	256 (estimated)
Milliken – Magnolia	255

**Merchant Power Plants**

# DHEC Air Program Status

- Process permits in sequence of submission
- Incorporate 8-hour ozone modeling analysis (available late Summer/early Fall, 2002)

# Regional Efforts

- SAMI
- VISTAS
- Southern Air Principles
- SESARM

# SESARM - METRO 4

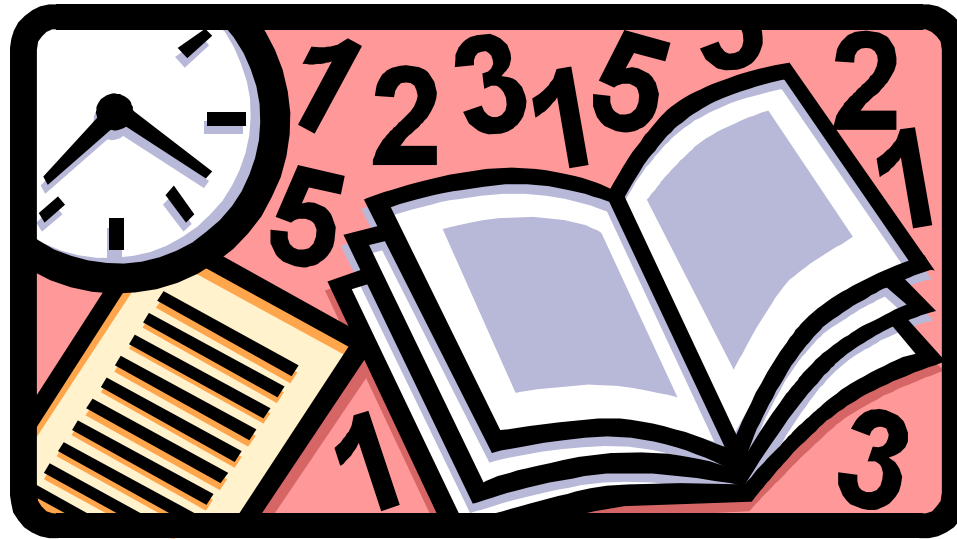
John Hornback, Ex. Director  
4244 International Parkway  
Suite 136  
Atlanta, GA 30354  
(404) 675-6156



Jim Joy is no longer Chair!



# Current Regulatory Activities



# NOx SIP Call Regulation

- Submitted to General Assembly for approval
- Expected to become effective upon publication in *SC State Register* in either May or June of 2002
- EPA Proposed Rule approving South Carolina's Plan is expected to be published in the Federal Register in the next few weeks
- Reductions in place by May 31, 2004

# Recent Regulation Activity

- Commercial/Industrial Solid Waste Incinerators (CISWI) & Small Municipal Waste Combustors (MWC)
  - Final rule incorporating emission guidelines for existing CISWI and NSPS (for CISWI and MWC) published on March 22, 2002.
  - Negative declaration for existing small MWC submitted to EPA and approved through a direct final rule published in the *Federal Register* on January 3, 2002.



# Recent Regulation Activity

- Waste Combustion and Reduction (Std 3)
  - Approved by Board on March 14, 2002
  - Submitted to General Assembly
- Federal Compliance Revisions
  - General revision to all of R.61-62 to maintain conformity with federal requirement
  - MACTs (includes 112j), NSPS,
  - Proposed rule will be published on April 26, 2002. Final approval from Board anticipated on June 13, 2002



MACT

# “MACT Hammer” & SC’s Efforts

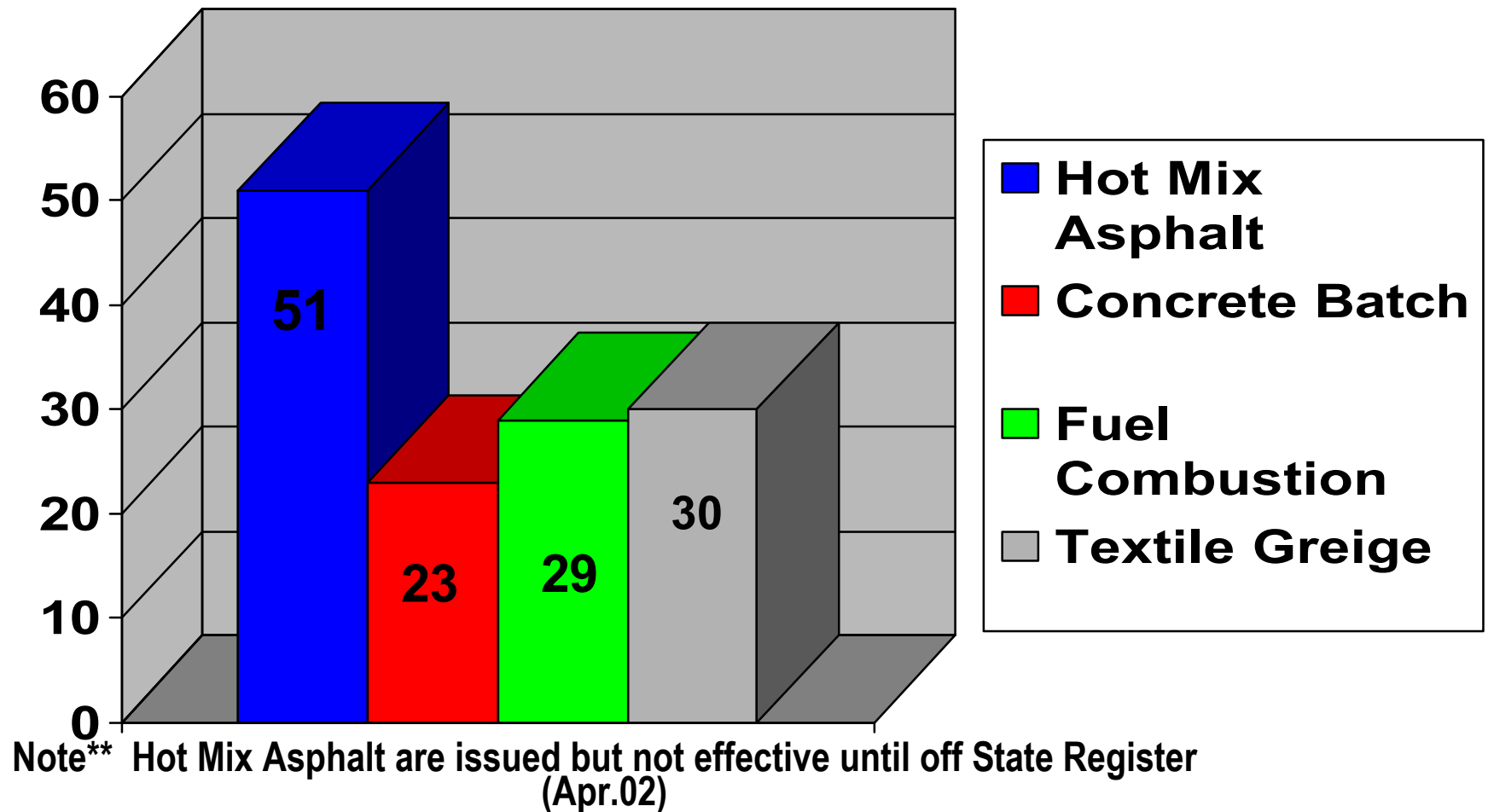


- Department has proposed a rule (to be published in the *State Register* on April 26th) that incorporates the **proposed** Federal language
- Department intends to amend this proposed rule to reflect the changes in the final rule

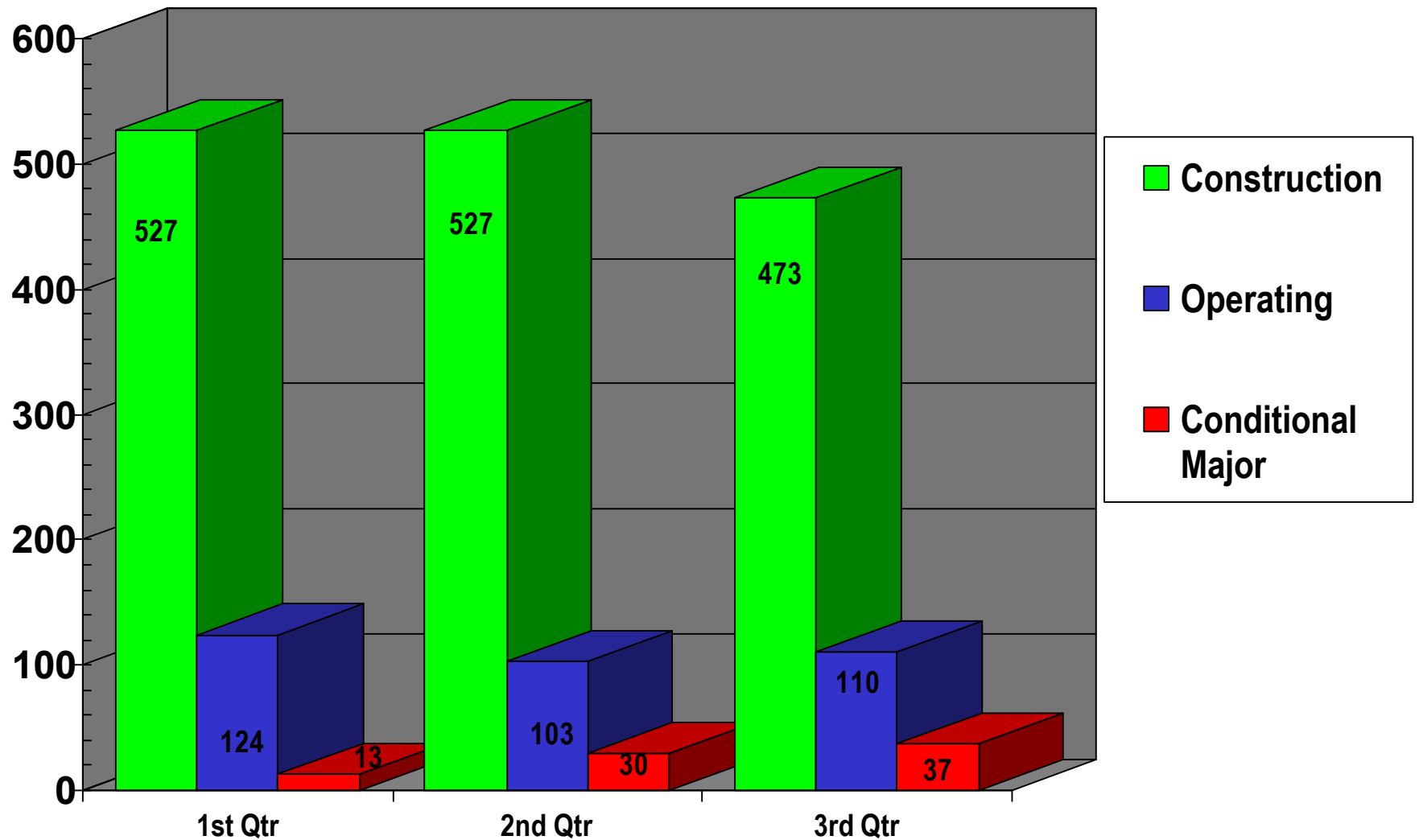
# Major Permitting Issues

- Title V Modifications
- Title V Re-issuance
- Compliance Assurance Monitoring (CAM)
- 12j
- 112g
- Plant-Wide Applicability Limit (PAL)

# General Permits Issued July 01 – March 31, 2002

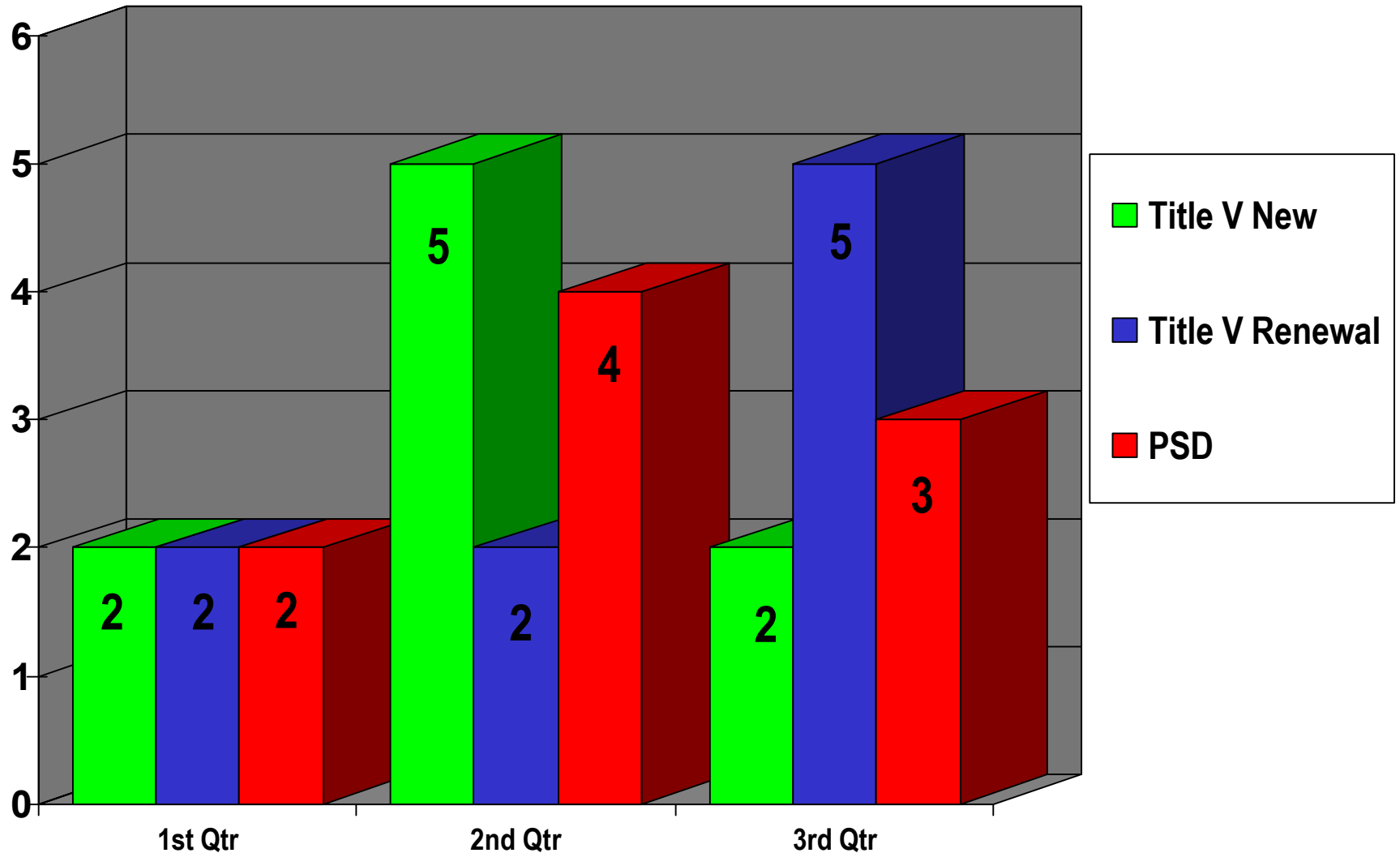


# Minor Source Construction & Operating Applications Received July 1, 2001 – March 31, 2002

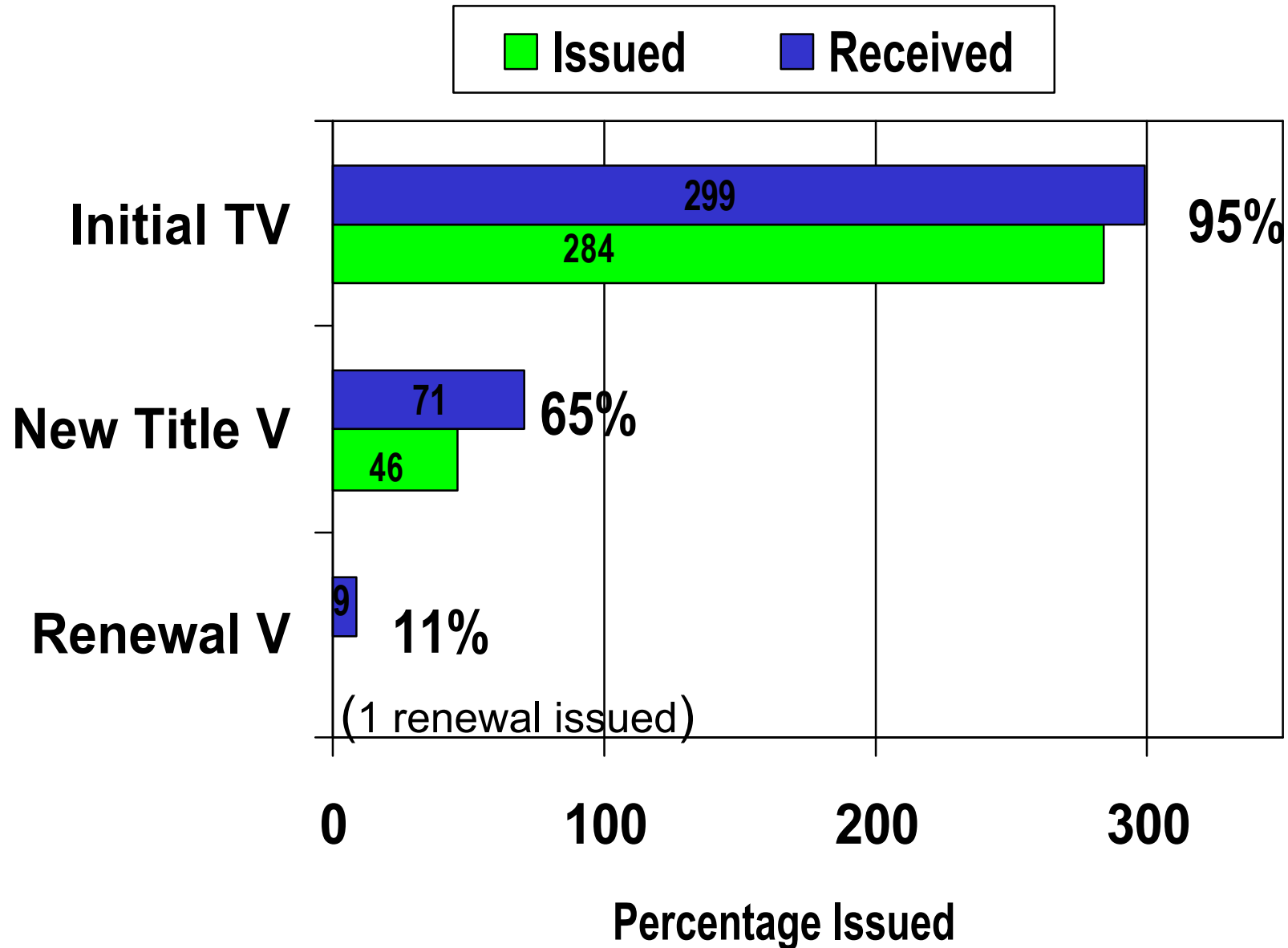


# Major Source Applications Received

## July 1, 2001 – March 31, 2002

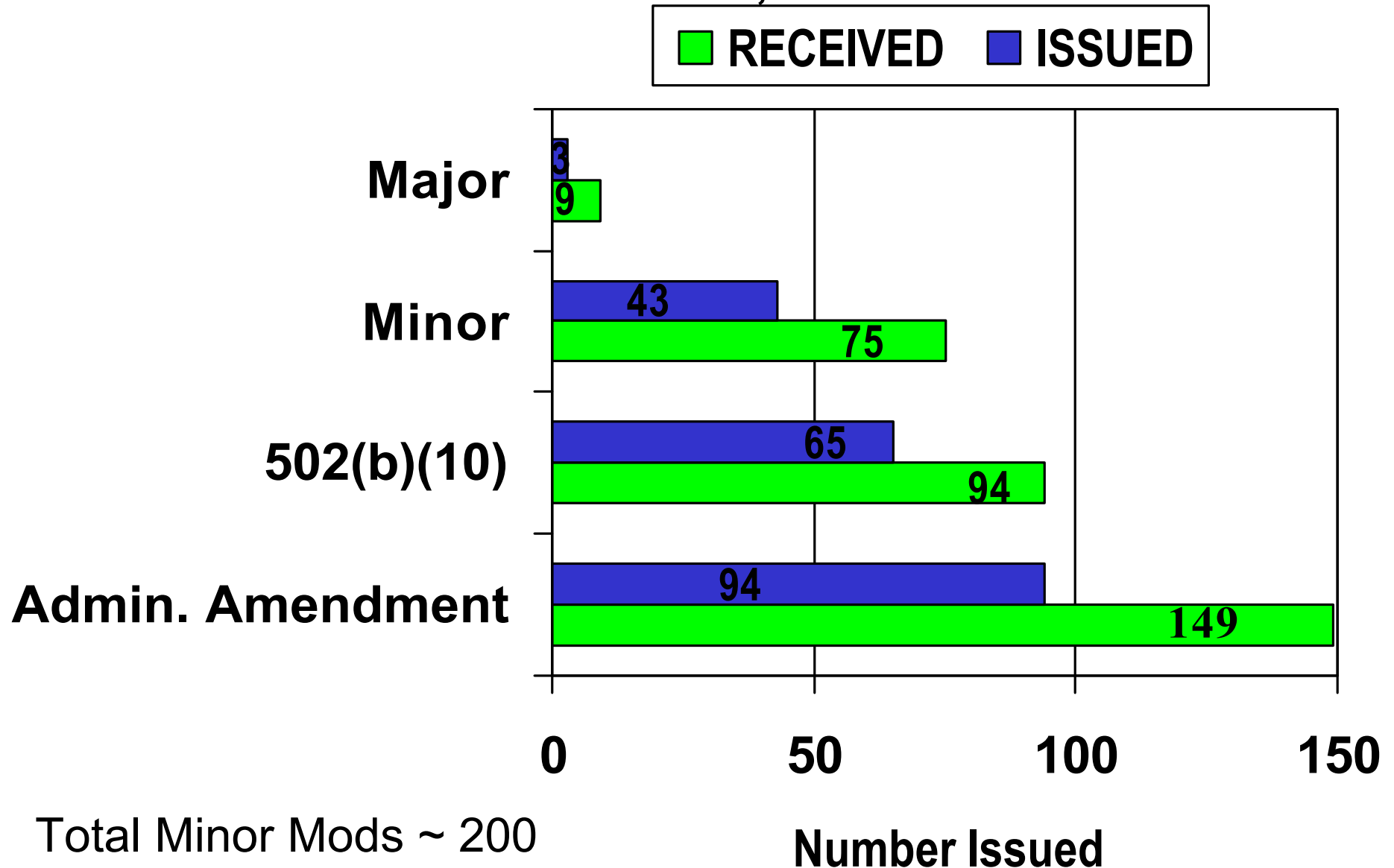


# Title V Permits Issued as of March 31, 2002

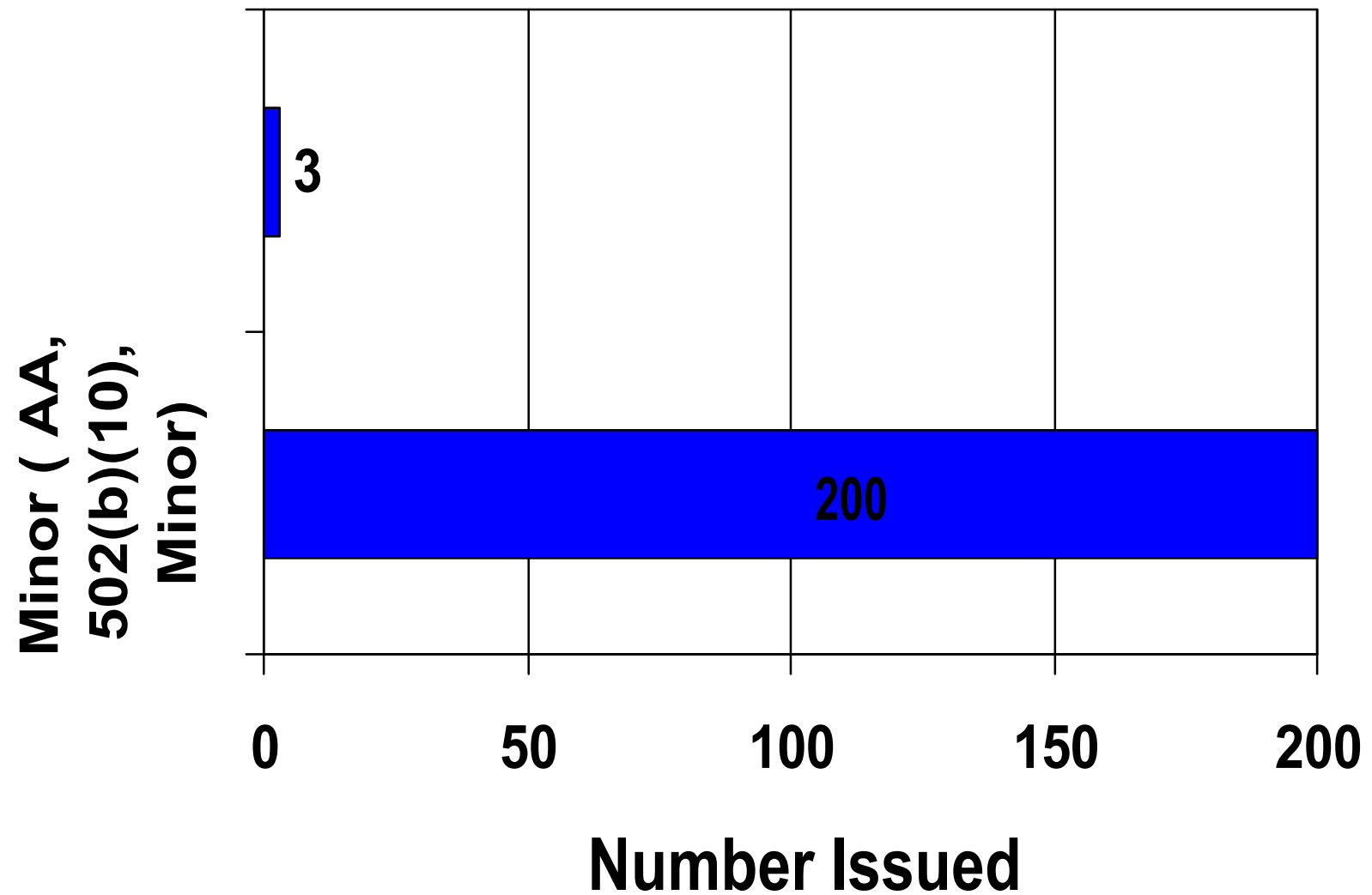




# Modifications Received & Issued as of March 31, 2002



# Title V Modifications as of March 31, 2002



# Permitting Process Initiative

Task Force: Permitting, Compliance, Modeling, Regulation Development, Emissions Inventory, Enforcement, Districts, Legal Office

 General Permits

 Streamlining Review/Process

 Public Notice

 Permit Application Fee



 Construction/  
Operating Permits

 EFIS Permit  
Generation

 Permitting Categories

# Permitting Process Initiative Draft Mission Statement

“To create a more efficient, thorough, and user-friendly permitting process, combining the needs of industry, regulators, and public through education, communication and innovation.”

# Summary of Enforcement Activities

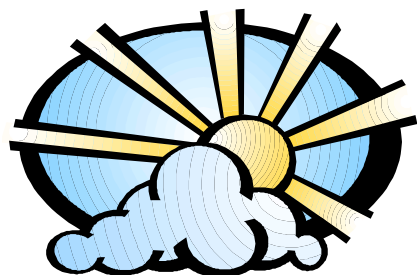
Calendar Years 2000 and 2001

	2000	2001
<b>Inspections/ Investigations With Violations Noted</b>	<b>730</b>	<b>787</b>
<b>Notice of Violations Issued</b>		
<b>Central Office (<i>Major Sources</i>)</b>	<b>326 (134)</b>	<b>251 (116)</b>
<b>EQC District Offices (Open Burning)</b>	<b>296</b>	<b>295</b>
<b>Total</b>	<b>622</b>	<b>546</b>
<b>Consent Orders Issued (<i>Major Sources</i>)</b>	<b>125 (56)</b>	<b>105 (50)</b>
<b>Total Civil Penalties Levied (<i>Major Sources</i>)</b>	<b>\$747,040 (\$415,990)</b>	<b>\$662,740 (\$499,400)</b>

# Complying with Your Title V Permit

Title V emphasizes that the responsibility is on *you* to:

- READ and understand your permit
- REVIEW the requirements frequently
- MONITOR your status on a regular basis
- KEEP records as required
- REPORT your compliance status (e.g., Annual Compliance Certification, to both DHEC and the EPA



Bureau of Air Quality



# Goals of the Program

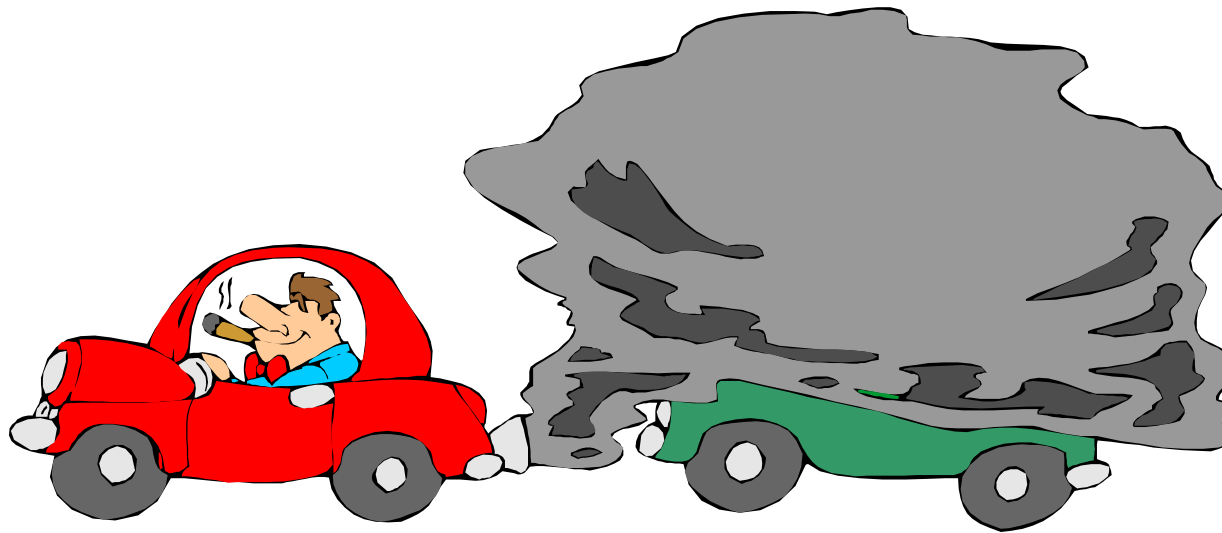


- Increase awareness among BAQ staff of the impact mobile sources have on air quality
- Encourage BAQ staff to take actions to help improve air quality
- And.....



# ...reduce emissions from mobile sources

especially oxides of nitrogen...



# Take a Break from the Exhaust

- Voluntary actions
- A variety of tools
  - Flex scheduling
  - Telecommuting
  - AWS Adjustment
  - Carpooling/Ridesharing
  - Biking
  - Walking
  - Staying in for lunch
- Team Captains encourage competition
- Especially on Ozone Action Days
- BAQ “Pilot” project ? Other State Agencies ?  
Business & Industry



# Competition....

- Staff assigned to three teams, each captained by the Bureau Chief, or an Asst. Bureau Chief
- Points based on type of action taken & number of actions taken

















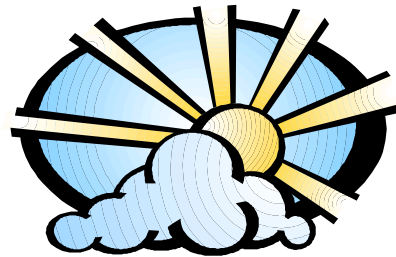


# South Carolina Air Quality Information

Bureau of Air Quality  
(803) 898-4123



<http://www.scdhec.net/baq>



Bureau of Air Quality